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USPT,JPAB,EPAB,DWPI	attenuat\$ or inactivat\$ or mutant or mutagen\$ or mutation\$	249078	<u>L9</u>
USPT,JPAB,EPAB,DWPI	lkt d	5	<u>L8</u>
USPT,JPAB,EPAB,DWPI	lkt-cabd	0	<u>L7</u>
USPT,JPAB,EPAB,DWPI	lktcabd	1	<u>L6</u>
USPT,JPAB,EPAB,DWPI	lktcab	1	<u>L5</u>
USPT,JPAB,EPAB,DWPI	lktb	4	<u>L4</u>
USPT,JPAB,EPAB,DWPI	l1 and (haemolytic\$ or hemolytic\$ or heamolytic\$)	82	<u>L3</u>
USPT,JPAB,EPAB,DWPI	l1 and pasteru\$	3	<u>L2</u>
USPT,JPAB,EPAB,DWPI	leucotox\$ or leukotox\$	131	<u>L1</u>

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USPT	119 and (dna or mrna or cdna or plasmid or clone or mutant or mutation or mutagenesis)	148	<u>L20</u>
USPT	118 and l6	237	<u>L19</u>
USPT	pasteur\$ same (haemolyt\$ or hemolyti\$ or heamolyt\$)	303	<u>L18</u>
USPT	pasteur\$ and (haemolyt\$ or hemolyti\$ or heamolyt\$)	581	<u>L17</u>
EPAB,DWPI	l6 same sheep	0	<u>L16</u>
EPAB,DWPI	l6 same cattle	0	<u>L15</u>
EPAB,DWPI	l6 same haemolytic\$	0	<u>L14</u>
EPAB,DWPI	l6 same pasteur\$	0	<u>L13</u>
EPAB,DWPI	111 same l6	0	<u>L12</u>
EPAB,DWPI	pasteur\$ same (haemolyt\$ or hemolyti\$ or heamolyt\$)	104	<u>L11</u>
EPAB,DWPI	pasteur\$ and (haemolyt\$ or hemolyti\$ or heamolyt\$)	120	<u>L10</u>
EPAB,DWPI	('CA 2081950A')[ABPN1,WKU]	1	<u>L9</u>
EPAB,DWPI	2081950	9	<u>L8</u>
USPT	5256415.pn.	1	<u>L7</u>
USPT	(leuko\$ or leuco\$ or cytotox\$ or haemoly\$ or cytolysin\$ or rtx or hemolysin\$ or cytotox\$)	37568	<u>L6</u>
USPT	14 and (leuko\$ or leuco\$ or cytotox\$)	1	<u>L5</u>
USPT	13 and pasteur\$	1	<u>L4</u>
USPT	segers.in.	46	<u>L3</u>
USPT	prideaux.in.	3	<u>L2</u>
USPT	highlander.in.	9	<u>L1</u>

Amino acid replacements in the *Serratia marcescens* haemolysin ShIA define sites involved in activation and secretion.

Schonherr R; Tsolis R; Focareta T; Braun V

Mikrobiologie II, Tübingen, Germany.

Molecular microbiology (ENGLAND) Sep 1993, 9 (6) p1229-37, ISSN

0950-382X Journal Code: MOM

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9501

Subfile: INDEX MEDICUS

The **haemolysin** of *Serratia marcescens* (ShIA) is translocated through the cytoplasmic membrane by the signal peptide-dependent export apparatus. Translocation across the outer membrane (secretion) is mediated by the ShIB protein. Only the secreted form of ShIA is haemolytic. ShIB also converts in vitro **inactive** ShIA (ShIA*), synthesized in the absence of ShIB, into the haemolytic form (a process termed activation). To define regions in ShIA involved in both processes, ShIA derivatives were isolated and tested for secretion and activation. Analysis of C-terminally truncated proteins (ShIA) assigned the secretion signal to the amino-terminal 238 residues of ShIA. Trypsin cleavage of a secreted ShIA' derivative yielded a 15 kDa N-terminal fragment, by which a **haemolytically inactive** ShIA* protein could be activated in vitro. It is suggested that the **haemolysin** activation site is located in this N-terminal fragment. Replacement of asparagine-69 and asparagine-109 by isoleucine yielded **inactive haemolysin** derivatives. Both asparagine residues are part of two short sequence motifs, reading Ala-Asn-Pro-Asn, which are critical to both activation and secretion. These point **mutants** as well as N-terminal deletion derivatives which were not activated by ShIB were activated by adding a non-haemolytic N-terminal fragment synthesized in an ShIB+ strain (complementation). Apparently the activated N-terminal fragment substituted for the missing activation of the ShIA derivatives and directed them into the erythrocyte membrane, where they formed pores. It is concluded that activation is only required for initiation of pore formation, and that in vivo activation and secretion are tightly coupled processes. Complementation may also indicate that **haemolysin** oligomers form the pores.

Molecular characterization of a leukotoxin gene from a *Pasteurella*

***haemolytica* like organism, encoding a new member of the RTX toxin family.**

AUTHOR: Chang Yung-Fu(a); Ma Din-Pow; Shi Jiarong; Chengappa M M

AUTHOR ADDRESS: (a)Diagnostic Lab., Coll. Veterinary Med., Cornell Univ.,
Ithaca, NY 14853**USA

JOURNAL: Infection and Immunity 61 (5):p2089-2095 1993

ISSN: 0019-9567

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: A *Pasteurella haemolytica*-like organism, a new species of bacterium isolated from piglets with diarrhea, secretes a leukotoxin into the culture media. Western blot (immunoblot) analysis indicated that this leukotoxin cross-reacted with antileukotoxin antibody derived from cattle immunized with *P. haemolytica*. Five overlapping recombinant bacteriophages carrying the gene for this 105-kDa polypeptide were identified with a DNA probe containing sequences from the *P. haemolytica* lktCA genes from a *P. haemolytica*-like organism strain 5943 genomic library. Sequence analysis of a region of the cloned DNA revealed two open reading frames encoding proteins with predicted masses of 19.4 and 101.6 kDa. These genes, which we designate pllktC (*P. haemolytica*-like organism leukotoxin C gene) and pllktA (A gene), respectively, are similar in sequence to the RTX (repeat of toxin) toxin family. The structure of the 101.6-kDa protein derived from the DNA sequence shows three transmembrane domains in the N-terminal part of the protein, 13 glycine-rich repeat domains in the second half of the protein, and a hydrophobic C-terminal part. pllktC and pllktA are strongly homologous to *P. haemolytica* lktC and lktA genes. However, this leukotoxin kills both BL-3 and pig leukocytes and is not hemolytic.

**MOLECULAR CHARACTERIZATION OF THE RTX CYTOLYSIN DETERMINANTS FROM
GRAM-NEGATIVE PATHOGENS OF VETERINARY SIGNIFICANCE**

Author: BURROWS, LORI LEE

Degree: PH.D.

Year: 1993

Corporate Source/Institution: UNIVERSITY OF GUELPH (CANADA) (0081)

Adviser: R. Y. C. LO

Source: VOLUME 55/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 3709. 201 PAGES

Descriptors: BIOLOGY, MICROBIOLOGY; BIOLOGY, VETERINARY SCIENCE

Descriptor Codes: 0410; 0778

ISBN: 0-315-90768-1

This thesis describes the molecular characterization of RTX (repeats in toxin)-related genetic determinants in several Gram-negative pathogens of veterinary significance. All sixteen serotypes of *Pasteurella haemolytica*, *Actinobacillus lignieresii*, *A. suis*, and *Moraxella bovis* were shown to possess RTX-related determinants. At least seven **variants** of the **leukotoxin** determinant were detected among the sixteen serotypes of *P. haemolytica*. The determinants from serotypes 2, 3, and 11 were cloned and mapped. The *lktC* and *lktA* genes from serotype 11 were sequenced and found to be 93.4% and 91.7% homologous to the corresponding genes from serotype 1, but only 82.5% and 80.3% homologous to the corresponding genes from serotype 3. Comparison of nucleotide sequences upstream of *lkt* of serotypes 1 and 3 revealed no homology. The upstream region of serotype 3 *lkt* encoded a protein with 74.7% identity to *Escherichia coli* KdsA. An **RTX** determinant (*asx11*) from *A. suis* was cloned and sequenced. *asx11* was found to be essentially identical to *apx11* from *A. pleuropneumoniae*; both contain only the first two of four genes typically found in a **RTX** determinant. Some serotypes of *A. pleuropneumoniae* contain a second **RTX** determinant, *apx1*. PCR primers based on *apx1A* were used to amplify products from a similar gene in *A. suis* (*asx1A*), indicating *A. suis* also possessed two **RTX** determinants. Nucleotide sequence analysis of a 1.4 kbp PCR product corresponding to the 5' half of *asx1A* revealed it was identical to the 5' half of *apx1A*. Pulsed-field gel electrophoresis was used to demonstrate the two determinants were separated on the *A. suis* chromosome. **RTX** determinants were detected in *A. lignieresii* and *M. bovis* by Southern blot analysis. PCR primers based on *apx1A* were used to generate a PCR product corresponding to the 5' half of the *A. lignieresii* *alx1A* gene, shown by partial DNA sequence analysis to be highly homologous to *apx1A*. Southern blot analysis of the *M. bovis* determinant demonstrated it was more closely related to *lkt* and *asx11* than to *hly* or *asx1*.

COMPLEMENTATION ANALYSIS OF PASTEURELLA HAEMOLYTICA LEUKOTOXIN
DELETION PROTEINS

Author: CRUZ, MARIA WILMA VERONICA TRINIDAD

Degree: PH.D.

Year: 1991

Corporate Source/Institution: TEXAS A&M UNIVERSITY (0803)

Co-chairs: DOUGLAS K. STRUCK; RYLAND F. YOUNG

Source: VOLUME 52/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 4623. 148 PAGES

Descriptors: BIOLOGY, VETERINARY SCIENCE; BIOLOGY, MOLECULAR; BIOLOGY,
MICROBIOLOGY

Descriptor Codes: 0778; 0307; 0410

A series of in-frame deletions in the **leukotoxin** lktA gene of **Pasteurella haemolytica** was constructed. All of the deletions eliminated the lytic activity of the **leukotoxin** towards the bovine lymphoma cell line, BL3. Deletions which removed segments of the amino-terminal hydrophobic region, which has been regarded as the lytic domain because of its membrane-seeking properties, were found to agglutinate BL3 cells. Agglutination was similar to lysis by the wild-type toxin in that it was cell-type specific, and required the presence of calcium and lktC gene expression. The agglutinating deletion proteins protected BL3 cells from lysis by the wild-type toxin in a competitive fashion. This suggests that the agglutinating **mutant** proteins bind to a surface feature of the bovine leukocyte which interacts with the native **leukotoxin**. Thus, the cell-binding domain is located in the carboxy-terminal half of LktA and can function independently of the amino-terminal domain. The agglutinating deletion proteins were able to complement derivatives of LktA with deletions distal to the amino-terminal hydrophobic regions. This suggests that the lytic and cell-binding domains of LktA reside in the amino- and carboxy-terminal halves of the toxin, respectively, and are functionally independent. LktC-activation is required only for the optimal binding of the toxin to the target cells and not for the function of the pore-forming region of LktA. Immunoprecipitation experiments provided evidence that the reconstitution of lytic ability by complementation between **inactive** LktA deletion proteins is the result of heterooligomer formation, in which one protein supplies the functional leukocyte-binding domain and the second protein provides the lytic domain. On the basis of complementation and immunoprecipitation results, a putative oligomerization domain is assigned to the central region, flanking codon 548, of the LktA protein.

Mutation of a putative leukotoxin transport gene in *Actinobacillus actinomycetemcomitans*.

AUTHOR: Guthmiller J M; Kolodrubetz D; Kraig E

AUTHOR ADDRESS: Univ. Tex. Health Sci. Cent., San Antonio, TX**USA

JOURNAL: Journal of Dental Research 72 (ABSTR. SPEC. ISSUE):p300 1993

CONFERENCE/MEETING: Joint Meeting of the International Association for Dental Research, the American Association of Dental Research and the Canadian Association of Dental Research Chicago, Illinois, USA March 10-14, 1993

ISSN: 0022-0345

RECORD TYPE: Citation

LANGUAGE: English

REGISTRY NUMBERS: 113972-57-9: **LEUKOTOXIN**

DESCRIPTORS:

MAJOR CONCEPTS: Gastroenterology (Human Medicine, Medical Sciences); Genetics; Infection; Pathology

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia; **Pasteurellaceae** --Eubacteria, Bacteria

ORGANISMS: *Actinobacillus actinomycetemcomitans* (**Pasteurellaceae**); Hominidae (Hominidae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; bacteria; chordates; eubacteria; humans; mammals; microorganisms; primates; vertebrates

CHEMICALS & BIOCHEMICALS: **LEUKOTOXIN**

MISCELLANEOUS TERMS: ABSTRACT; DNA; LOCALIZED JUVENILE PERIODONTITIS; PERIODONTAL DISEASE

CONCEPT CODES:

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L10: Entry 18 of 24

File: EPAB

May 9, 1997

PUB-NO: WO009716531A1
DOCUMENT-IDENTIFIER: WO 9716531 A1
TITLE: IMMUNITY AGAINST PASTEURELLA HAEMOLYTICA LEUKOTOXIN

PUBN-DATE: May 9, 1997

INVENTOR-INFORMATION:

NAME

COUNTRY

PRIDEAUX, CHRISTOPHER THOMAS

AU

HODGSON, ADRIAN LESLIE MARK

AU

ASSIGNEE-INFORMATION:

NAME

COUNTRY

COMMW SCIENT IND RES ORG

AU

PRIDEAUX CHRISTOPHER THOMAS

AU

HODGSON ADRIAN LESLIE MARK

AU

APPL-NO: AU09600685

APPL-DATE: November 1, 1996

PRIORITY-DATA: AUPN631395A (November 2, 1995)

INT-CL (IPC): C12N 1/21; C12N 15/31; A61K 39/02; A61K 39/10; A61K 39/08

ABSTRACT:

Bovine respiratory disease (BRD) complex, shipping fever, or pneumonic pasteurellosis, is a multifactorial disease whereby a combination of viral infection, adverse environment and poor immune status may combine to predispose animals to bacterial infections. The exotoxin, or leukotoxin (Lkt), may contribute to pathogenesis by impairing the primary lung defenses and subsequent immune responses or by causing inflammations as a result of leukocyte lysis. The present invention provides a modified microorganism which produces an Lkt toxin, wherein said Lkt toxin is partially or fully inactivated. In a further embodiment of the present invention, there is provided a modified microorganism wherein an Lkt toxin operon including an Lkt structural gene and/or a post translational activator of the organism is partially or fully inactivated. The present applicants have found that a precursor of Lkt toxin has reduced toxic activity. Surprisingly, the Lkt toxin precursor is capable of inducing an immune response in an animal that offers cross protection against heterologous challenge with a microorganism which produces the Lkt toxin. A microorganism which naturally produces an Lkt toxin may be engineered to produce an inactive Lkt toxin precursor by eliminating the post-translational activator of the precursor product. Accordingly, in a preferred embodiment the microorganism is unable to produce a post-translational activator of the Lkt toxin precursor or produces an inactivated post-translational activator of the Lkt toxin precursor. The post-translational activator may be a product of the Lkt C gene.

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L10: Entry 21 of 24

File: DWPI

Mar 30, 2000

DERWENT-ACC-NO: 1997-272101

DERWENT-WEEK: 200026

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TITLE: Microorganism producing inactivated leukotoxin - useful for production of vaccines for protection of animals, e.g. against bovine respiratory disease in cattle

INVENTOR: HODGSON, A L M; PRIDEAUX, C T ; HODGSON, A L

PATENT-ASSIGNEE:

ASSIGNEE	CODE
COMMONWEALTH SCI & IND RES ORG	CSIR
NEW SOUTH WALES DEPT AGRIC	NEWSN
STATE QUEENSLAND DEPT PRIMARY IND	QUEEN
UNIV NEW ENGLAND	UYNEN
STATE NEW SOUTH WALES	NEWSN
NEW SOUTH WALES MIN AGRIC	NEWSN

PRIORITY-DATA:

1995AU-0006313

November 2, 1995

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 717773 B	March 30, 2000	N/A	000	C12N001/21
WO 9716531 A1	May 9, 1997	E	042	C12N001/21
AU 9672685 A	May 22, 1997	N/A	000	C12N001/21
EP 862615 A1	September 9, 1998	E	000	C12N001/21
BR 9611278 A	January 26, 1999	N/A	000	C12N001/21
NZ 320025 A	April 29, 1999	N/A	000	C12N001/21
MX 9803370 A1	November 1, 1998	N/A	000	C12N001/21

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB
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45080	PASTEURELLA?
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2/6/1 (Item 1 from file: 155)

09666999 98404098

In vivo production of neuraminidase by Pasteurella haemolytica in market stressed cattle after natural infection.

Oct 1998

2/6/2 (Item 2 from file: 155)

09207530 97375068

Neuraminidase (sialidase) activity of Haemophilus parasuis.

Jul 15 1997

2/6/3 (Item 3 from file: 155)
08829897 96421532

In vivo production of neuraminidase by *Pasteurella multocida* A:3 in goats after transthoracic challenge.
Oct 1996

2/6/4 (Item 4 from file: 155)
08628326 96178644

Characterization of neuraminidases produced by various serotypes of *Pasteurella multocida*.
Apr 1996

2/6/5 (Item 5 from file: 155)
08423940 96014431

Extracellular neuraminidase production by *Pasteurella* species isolated from infected animals.
Nov 1995

2/6/6 (Item 6 from file: 155)
08280113 95247250

Extracellular neuraminidase production by a *Pasteurella multocida* A:3 strain associated with bovine pneumonia.
May 1995

2/6/7 (Item 7 from file: 155)
08021607 95012671

In vivo production of neuraminidase by *Pasteurella haemolytica* A1 in goats after transthoracic challenge.
Oct 1994

2/6/8 (Item 8 from file: 155)
07644603 94011376

Characterization of neuraminidases produced by various serotypes of *Pasteurella haemolytica*.
Nov 1993

2/6/9 (Item 9 from file: 155)
07485253 93114881

Neuraminidase production by a *Pasteurella haemolytica* A1 strain associated with bovine pneumonia.
Jan 1993

2/6/10 (Item 10 from file: 155)
07089173 92358857

Passive protection of mice with antiserum to neuraminidase from *Pasteurella multocida* serotype A:3.
1992

2/6/11 (Item 11 from file: 155)
03429818 81238673

Neuraminidase activity of *Pasteurella haemolytica* isolates.
Jun 1981

2/6/12 (Item 12 from file: 155)
03040597 76035946

Michaelis constants of neuraminidases of pathogenic and apathogenic microorganisms (author's transl)]
Michaelis-Konstanten von Neuroaminidasen bei pathogenen und apathogenen Mikroorganismen
May-Jun 1975

2/6/13 (Item 13 from file: 155)
02344269 75187012

Inhibition of bacterial neuraminidases by different anions (author's transl)]
Über die Hemmung bakterieller Neuraminidasen durch verschiedene Anionen
May 15 1975

2/6/14 (Item 14 from file: 155)
01872140 73022290

Neuraminidase and N-acetylneuraminate pyruvate-lyase of Pasteurella multocida.
Sep 1972

2/6/15 (Item 15 from file: 155)
01754876 73225832

Serological studies on bacterial neuraminidases with special reference to the neuraminidase of Pasteurella multocida]
Serologische Untersuchungen bakterieller Neuraminidasen mit besonderer Berücksichtigung der Neuraminidase von Pasteurella multocida.
Aug 1972

2/6/16 (Item 16 from file: 155)
01693980 75105291

The virulence of Pasteurella multocida strains and their neuraminidase production (author's transl)]
Die Virulenz von Pasteurella multocida-Stämmen und ihre Neuraminidase-Produktion
1974

2/6/17 (Item 17 from file: 155)
01693443 75069880

The estimation of the molecular weight of bacterial neuraminidases by gel-filtration (author's transl)]
Die Bestimmung des Molekulargewichtes bakterieller Neuraminidasen mit Hilfe der Gel-Filtration
1974

2/6/18 (Item 18 from file: 155)
01627955 72213206

[The increased activity of microbial neuramidase in low hydrogen peroxide concentrations]
Über die Aktivitätssteigerung mikrobieller Neuraminidasen bei niedrigen Wasserstoffperoxid-Konzentrationen.
Apr 15 1972

2/6/19 (Item 19 from file: 155)
01559476 71261046

In vivo action of Pasteurella multocida neuraminidase]
Unterushungen über die in vivo-Wirkung von Neuraminidase bei Pasteurella multocida.
Jul 1971

2/6/20 (Item 20 from file: 155)

00677415 71292760

In vitro-studies of *Pasteurella multocida* neuraminidase]

Untersuchungen in vitro über die Neuraminidase der *Pasteurella multocida*.

Jul 1971

2/6/21 (Item 1 from file: 5)

112617450 BIOSIS NO.: 200000370952

Characterization of neuraminidases with 2'6- and 2'3

N-acetylneuraminylactose specificity from *Pasteurella multocida*.

2000

2/6/22 (Item 2 from file: 5)

11899263 BIOSIS NO.: 199900145372

The neuraminidase of *Pasteurella multocida* is a conserved antigen among species in the genus *Pasteurella*.

1998

2/6/23 (Item 3 from file: 5)

11633914 BIOSIS NO.: 199800415645

Relationship of virulence of *Pasteurella multocida* (Pm) for chickens with neuraminidase production, and presence of Plp-40 capsule-associated lipoprotein.

1998

2/6/24 (Item 4 from file: 5)

11633906 BIOSIS NO.: 199800415637

Second neuraminidase gene (*nanH*) cloned from *Pasteurella multocida*.

1998

2/6/25 (Item 5 from file: 5)

11633892 BIOSIS NO.: 199800415623

In vivo production of neuraminidase by *Pasteurella haemolytica* in cattle following natural infection.

1998

2/6/26 (Item 6 from file: 5)

10962108 BIOSIS NO.: 199799583253

Neuraminidase activity of *Haemophilus parasuis*.

1997

2/6/27 (Item 7 from file: 5)

10960288 BIOSIS NO.: 199799581433

Distribution of a neuraminidase gene (*nanH*) isolated from serotype A:3,4 *Pasteurella multocida*.

1997

2/6/28 (Item 8 from file: 5)

09334991 BIOSIS NO.: 199497343361

In vivo production of neuraminidase by *Pasteurella haemolytica* A1 (Ph A1) in goats following transthoracic bacterial challenge.

1994

2/6/29 (Item 9 from file: 5)

01298236 BIOSIS NO.: 000010038469

ON THE INCREASE OF ACTIVITY OF MICROBIAL NEURAMINIDASES IN LOW HYDROGEN PER OXIDE CONCENTRATIONS

1972

2/6/30 (Item 10 from file: 5)
01159464 BIOSIS NO.: 000055039682

**SEROLOGICAL STUDIES OF BACTERIAL NEURAMINIDASES WITH SPECIAL REFERENCES
TO THE NEURAMINIDASE OF PASTEURELLA-MULTOCIDA**
1972

2/6/31 (Item 11 from file: 5)
01135946 BIOSIS NO.: 000055016157

**NEURAMINIDASE EC-3.2.1.18 AND N ACETYL NEURAMINATE PYRUVATE LYASE
EC-4.1.3.3 OF PASTEURELLA-MULTOCIDA**
1972

2/6/32 (Item 12 from file: 5)
00917855 BIOSIS NO.: 000053038028

IN-VITRO STUDIES OF THE PASTEURELLA-MULTOCIDA NEURAMINIDASE EC-3.2.1.18
1971

2/6/33 (Item 1 from file: 50)
01236719 CAB Accession Number: 822208589
Neuraminidase from *Pasteurella haemolytica*.

2/6/34 (Item 2 from file: 50)
01231110 CAB Accession Number: 822201734

**Study of interrelation between hyaluronidase, neuraminidase and
virulence of *Pasteurella multocida* and their role in pathogenesis of
poultry pasteurellosis.**

2/6/35 (Item 3 from file: 50)
00808864 CAB Accession Number: 782218537

**Occurrence and significance of neuraminidase and
N-acetylneuraminat-pyruvate-lyase in four *Haemophilus* species in animals.**
Original Title: Vorkommen und Bedeutung von Neuraminidase und
N-Acetylneuraminat-Pyruvat-Lyase bei vier tierischen *Haemophilus*-Arten.

2/6/36 (Item 4 from file: 50)
00808343 CAB Accession Number: 782217793

**Occurrence and some properties of neuraminidases in *Haemophilus avium*
and *Haemophilus paragallinarum*.**

2/6/37 (Item 5 from file: 50)
00698487 CAB Accession Number: 772299342

**Neuraminidase and N-acylneuraminat pyruvate lyase in *Haemophilus*
paragallinarum and *Haemophilus paravium* n. sp.**
Original Title: Neuraminidase und N-Acylneuraminat-Pyruvat-Lyase bei
Haemophilus paragallinarum und *Haemophilus paravium* n. sp.

2/6/38 (Item 6 from file: 50)
00647575 CAB Accession Number: 781347349

Neuraminidase as a pathogenic factor of microbial infections.
Original Title: Neuraminidase als Pathogenitätsfaktor bei
Mikrobiellen Infektionen.

2/6/39 (Item 1 from file: 73)
00554491 EMBASE No: 1976110114

**Studies on the virulence and neuraminidase production of 26
Pasteurella strains**

1974

2/6/40 (Item 2 from file: 73)
00554479 EMBASE No.: 1976110102
Neuraminidase of *Pasteurella multocida*
1974

2/6/41 (Item 1 from file: 144)
04110161 PASCAL No.: 75-0011975
DIE VIRULENZ VON PASTEURELLA MULTOCIDA-STAEMMEN UND IHRE NEURAMINIDASE
-PRODUKTION
(LA VIRULENCE DE SOUCHES DE P. M. ET LEUR PRODUCTION DE NEURAMINIDASE)
1974

2/6/42 (Item 2 from file: 144)
00143014 PASCAL No.: 73-0005603
SEROLOGISCHE UNTERSUCHUNGEN BAKTERIELLER NEURAMINIDASEN MIT BESONDERER
BERUECKSICHTIGUNG DER NEURAMINIDASE VON PASTEURELLA MULTOCIDA
(RECHERCHES SEROLOGIQUES CONCERNANT LES NEURAMINIDASES BACTERIENNES
AVEC ETUDE PARTICULIERE DE LA NEURAMINIDASE DE P. M.)
1972

2/6/43 (Item 3 from file: 144)
00138542 PASCAL No.: 73-0001113
EN BULGARE
IN: II KONGRES PO MIKROBIOLOGIYA. SOFIYA, 1969. II
(L'ACTION DE LA NEURAMINIDASE DE PASTEURELLA MULTOCIDA SUR L'ACIDE
SIALIQUE DES ERYTHROCYTES DE MOUTON ET DE CHEVAL)
1971

2/6/44 (Item 1 from file: 10)
290216 729072164
Behavior of sialic acid in sheep and horse erythrocytes regarding
neuraminidase activity of *Pasteurella multocida*
1971

2/6/45 (Item 1 from file: 77)
4102821
Supplier Accession Number: 94-06190 V22N06
In vivo production of neuraminidase by *Pasteurella haemolytica* A1 in
goats following transthoracic bacterial challenge

2/6/46 (Item 1 from file: 342)
03108163 WPI Acc No: 98-271747/24
Pasteurella multocida neuraminidase...

2/6/47 (Item 1 from file: 349)
00573233
NEURAMINIDASE, CODING SEQUENCES, COMPOSITIONS AND METHODS
NEURAMINIDASE, SEQUENCES CODANTES, COMPOSITIONS ET TECHNIQUES AFFERENTES
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 13782
Publication Year: 1998

2/6/48 (Item 1 from file: 357)
0225522 DBA Accession No.: 98-07119
Novel Pasteurella multocida neuraminidase - recombinant
exo-alpha-sialidase preparation, DNA probe and DNA primer for use in
recombinant vaccine and disease diagnosis 1998
?logout hold

06nov00 20:53:14 User228206 Session D1350.8
\$0.31 0.097 DialUnits File155
\$0.00 20 Type(s) in Format 6
\$0.00 20 Types
\$0.31 Estimated cost File155
\$0.57 0.102 DialUnits File5
\$0.00 12 Type(s) in Format 6
\$0.00 12 Types
\$0.57 Estimated cost File5
\$0.28 0.062 DialUnits File50
\$0.00 6 Type(s) in Format 6
\$0.00 6 Types
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\$0.55 0.042 DialUnits File34
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\$0.26 Estimated cost File434
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\$0.00 1 Types
\$0.13 Estimated cost File349
\$0.18 0.015 DialUnits File357
\$0.00 1 Type(s) in Format 6
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\$0.18 Estimated cost File357
OneSearch, 13 files, 0.611 DialUnits FileOS
\$0.05 TYMNET
\$3.61 Estimated cost this search
\$24.31 Estimated total session cost 2.838 DialUnits

Status: Signed Off. (4 minutes)

Status: Path 1 of [Dialog Information Services via Modem]

Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)
Trying 3106900061...Open

DIALOG INFORMATION SERVICES

PLEASE LOGON:

***** HHHHHHHH SSSSSSS?

Status: Signing onto Dialog

ENTER PASSWORD:

***** HHHHHHHH SSSSSSS? *****

Welcome to DIALOG

Status: Connected

Dialog level 00.07.20D

Reconnected in file OS 06nov00 20:57:42

SYSTEM:OS - DIALOG OneSearch

File 155:MEDLINE(R) 1966-2000/Dec W4

(c) format only 2000 Dialog Corporation

*File 155: For changes to the file and check tags information please see Help News155.

File 5:Biosis Previews(R) 1969-2000/Nov W1

(c) 2000 BIOSIS

File 50:CAB Abstracts 1972-2000/Oct

(c) 2000 CAB International

*File 50: All 2000 updates have been reprocessed. Truncating CC codes is recommended for full retrieval. See Help News50 for details.

File 73:EMBASE 1974-2000/Oct W2

(c) 2000 Elsevier Science B.V.

*File 73: Update codes are currently undergoing readjustment. For details type Help News73.

File 144:Pascal 1973-2000/Nov W1

(c) 2000 INIST/CNRS

*File 144: This file is now updating weekly.

File 10:AGRICOLA 70-2000/Oct

(c) format only 2000 The Dialog Corporation

File 34:SciSearch(R) Cited Ref Sci 1990-2000/Oct W5

(c) 2000 Inst for Sci Info

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

File 77:Conference Papers Index 1973-2000/Sep

(c) 2000 Cambridge Sci Abs

File 162:CAB HEALTH 1983-2000/Sep

(c) 2000 CAB INTERNATIONAL

*File 162: Truncating CC codes is recommended for full retrieval. See Help News162 for details.

File 342:Derwent Patents Citation Indx 1978-00/200050

(c) 2000 Derwent Info Ltd

File 349:PCT Fulltext 1983-2000/UB=20001102, UT=20001019

(c) 2000 WIPO/MicroPat

*File 349: Phase 2 enhancements with current WIPO biblio data now online. See HELP NEWS 349 for more information.

File 357:Derwent Biotechnology Abs 1982-2000/Nov B2

(c) 2000 Derwent Publ Ltd

Set Items Description

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?ds

Set	Items	Description
S1	129	NEURAMINIDASE?/TI AND PASTEURELLA?
S2	48	RD (unique items)
?t s2/9/8	9 11 12 13 17 24 27 33 45	

2/9/8 (Item 8 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

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07644603 94011376

Characterization of neuraminidases produced by various serotypes of Pasteurella haemolytica.

Straus DC; Jolley WL; Purdy CW

Department of Microbiology and Immunology, Texas Tech University Health Sciences Center, Lubbock 79430.

Infection and immunity (UNITED STATES) Nov 1993, 61 (11) p4669-74, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9401

Subfile: INDEX MEDICUS

Neuraminidases produced by 16 strains of *Pasteurella haemolytica* (serotypes 1 to 16) were characterized by molecular weight, antigenic identity, and substrate specificity. After growth in a chemically defined medium, stage I (lyophilized) culture supernatants were assayed for activity with N-acetylneuramin lactose, human alpha-1-acid glycoprotein, fetuin, colominic acid, and bovine submaxillary mucin. Neuraminidase produced by *P. haemolytica* serotype A1 (Ph A1) was purified by a combination of salt fractionation, ion-exchange chromatography on DEAE-Sephacel, and gel filtration on Sephadex G-200. Purified Ph A1 neuraminidase was used to immunize rabbits, and the resultant antiserum reduced the activity of Ph A1 neuraminidase by 46%. This antiserum also reduced the activity of neuraminidase produced by the other serotypes by between 15 and 66%. Molecular weight estimates of the neuraminidases produced by the various serotypes were obtained by gel filtration chromatography on Sephadex G-200. Fifteen of the 16 serotypes examined produced a neuraminidase with a molecular weight of approximately 150,000 to 200,000. One serotype (serotype 11) produced no material with neuraminidase activity. In addition, all 15 high-molecular-weight neuraminidases showed similar substrate specificities. That is, they were all most active against N-acetylneuramin lactose and least active against bovine submaxillary mucin. On the basis of these results, it appears that the high-molecular-weight neuraminidases produced by the different *P. haemolytica* serotypes are quite similar.

Tags: Support, Non-U.S. Gov't

Descriptors: Neuraminidase--Metabolism--ME; * *Pasteurella haemolytica* --Enzymology--EN; Molecular Weight; Neuraminidase--Immunology--IM; Neutralization Tests; Serotyping; Substrate Specificity

Enzyme No.: EC 3.2.1.18 (Neuraminidase)

2/9/9 (Item 9 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2000 Dialog Corporation. All rts. reserv.

07485253 93114881

Neuraminidase production by a Pasteurella haemolytica A1 strain associated with bovine pneumonia.

Straus DC; Unbehagen PJ; Purdy CW

Department of Microbiology, Texas Tech University Health Sciences Center, Lubbock 79430.

Infection and immunity (UNITED STATES) Jan 1993, 61 (1) p253-9, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9304

Subfile: INDEX MEDICUS

The properties of an extracellular neuroaminidase produced by a *Pasteurella haemolytica* A1 strain (isolated from a case of bovine pneumonia) during growth in a defined medium were examined in this investigation. This enzyme, isolated from concentrated culture supernatants of *P. haemolytica* A1, was active against N-acetylneuramin lactose, human alpha 1-acid glycoprotein, fetuin, and bovine submaxillary mucin. Neuraminidase production paralleled bacterial growth in a defined medium and was maximal in the stationary phase of growth. The enzyme was purified to homogeneity by a combination of salt fractionation, ion-exchange

chromatography on DEAE-Sephacel, and gel filtration on Sephadex G-200. These procedures yielded an enzyme preparation that possessed a specific activity of 100.62 μ mol of sialic acid released per min per mg of protein against human alpha 1-acid glycoprotein. The K_m value for this enzyme with human alpha 1-acid glycoprotein as the substrate was 1.1 mg/ml, and the enzyme possessed a pH optimum of 6.5. The *P. haemolytica* A1 neuraminidase had a molecular weight of approximately 150,000 as estimated by gel filtration and approximately 170,000 when analyzed by sodium dodecyl sulfate-polyacrylamide gel electrophoresis. The enzyme was stable at 4 degrees C for 3 h. At 37 degrees C for 3 h, 25% of enzymatic activity was lost. Approximately 55% of the enzyme activity was lost within 30 min at 50 degrees C, with greater than 70% of the enzyme activity being destroyed within 10 min at temperatures of \geq 65 degrees C.

Tags: Animal; Support, Non-U.S. Gov't

Descriptors: Cattle Diseases--Microbiology--MI; *Neuraminidase --Biosynthesis--BI; **Pasteurella* haemolytica--Enzymology--EN; *Pneumonia --Veterinary--VE; Cattle; Cell Division; Chromatography, Gel; Chromatography, Ion Exchange; Electrophoresis, Polyacrylamide Gel; Glycoproteins--Metabolism--ME; Heat--Adverse Effects--AE; Hydrogen-Ion Concentration; Molecular Weight; Neuraminidase--Isolation and Purification --IP; *Pasteurella* haemolytica--Physiology--PH; Pneumonia--Microbiology --MI; Substrate Specificity

CAS Registry No.: 0 (Glycoproteins)

Enzyme No.: EC 3.2.1.18 (Neuraminidase)

2/9/11 (Item 11 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2000 Dialog Corporation. All rts. reserv.

03429818 81238673

Neuraminidase activity of *Pasteurella haemolytica* isolates.

Frank GH; Tabatabai LB

Infection and immunity (UNITED STATES) Jun 1981, 32 (3) p1119-22,

ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8111

Subfile: INDEX MEDICUS

Tags: Animal; Comparative Study

Descriptors: Neuraminidase--Metabolism--ME; **Pasteurella* --Enzymology --EN; Cattle; Cattle Diseases--Enzymology--EN; Lung--Microbiology--MI; *Pasteurella* --Classification--CL; *Pasteurella* --Isolation and Purification--IP; *Pasteurella* Infections--Veterinary--VE; Serotyping; Sheep; Sheep Diseases--Enzymology--EN

Enzyme No.: EC 3.2.1.18 (Neuraminidase)

2/9/12 (Item 12 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2000 Dialog Corporation. All rts. reserv.

03040597 76035946

Michaelis constants of neuraminidases of pathogenic and apathogenic microorganisms (author's transl)]

Michaelis-Konstanten von Neuroaminidasen bei pathogenen und apathogenen Mikroorganismen

Muller HE; von Nicolai H; Zilliken F

Zeitschrift fur Naturforschung. Section C: Biosciences (GERMANY, WEST)

May-Jun 1975, 30 (3) p417-9, ISSN 0341-0382 Journal Code: XYX

Languages: GERMAN Summary Languages: ENGLISH

Document type: JOURNAL ARTICLE ; English Abstract

JOURNAL ANNOUNCEMENT: 7602

Subfile: INDEX MEDICUS

The K_m -values of neuraminidases from different pathogenic and apathogenic microorganisms have been determined on low and high molecular substrates. The substrate specificity and the affinity to the different types of

substrates in relation to the pathogenicity of the microorganisms are discussed.

Tags: Animal; Human

Descriptors: *Bacteria--Pathogenicity--PY; *Neuraminidase--Metabolism--ME ; *Trichomonas--Pathogenicity--PY; Bacteria--Enzymology--EN; Cattle; Clostridium perfringens--Pathogenicity--PY; Corynebacterium--Pathogenicity--PY; Erysipelothrix--Pathogenicity--PY; Glycoproteins--Metabolism--ME; Kinetics; Lactobacillus--Pathogenicity--PY; Milk; Milk, Human; Mucins--Metabolism--ME; Mycoplasma--Pathogenicity--PY; Oligosaccharides--Metabolism--ME; **Pasteurella** --Pathogenicity--PY; Streptococcus--Pathogenicity--PY; Streptococcus pneumoniae--Pathogenicity--PY; Trichomonas--Enzymology--EN; Vibrio cholerae--Pathogenicity--PY

2/9/13 (Item 13 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2000 Dialog Corporation. All rts. reserv.

02344269 75187012

Inhibition of bacterial neuraminidases by different anions (author's transl)]

Über die Hemmung bakterieller **Neuraminidasen** durch verschiedene Anionen
Rau W; Muller HE

Experientia (SWITZERLAND) May 15 1975, 31 (5) p515-6, ISSN 0014-4754
Journal Code: EQZ

Languages: GERMAN Summary Languages: ENGLISH

Document type: JOURNAL ARTICLE ; English Abstract

JOURNAL ANNOUNCEMENT: 7511

Subfile: INDEX MEDICUS

It was shown that neuraminidase of *Vibrio comma* is inactivated by Ca.-binding anions like citrate, EDTA, oxalate, phosphate or tartrate. There is, however, no inhibition of the newly described enzymes of *Erysipelothrix insidiosus* and *Streptococcus viridans*. Pyruvate and, to a lesser extent, also citrate inactivate all the neuraminidases investigated independently of their activation by Ca. ions.

Descriptors: *Bacteria--Enzymology--EN; *Neuraminidase--Antagonists and Inhibitors--AI; Ascorbic Acid--Pharmacology--PD; Calcium--Metabolism--ME; Citrates--Pharmacology--PD; Edetic Acid--Pharmacology--PD; *Erysipelothrix* --Enzymology--EN; Oxalates--Pharmacology--PD; **Pasteurella** --Enzymology--EN ; Phosphates--Pharmacology--PD; Pyruvates--Pharmacology--PD; *Streptococcus* --Enzymology--EN; Tartrates--Pharmacology--PD; *Vibrio cholerae*--Enzymology--EN

2/9/17 (Item 17 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

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01693443 75069880

The estimation of the molecular weight of bacterial neuraminidases by gel-filtration (author's transl)]

Die Bestimmung des Molekulargewichtes bakterieller **Neuraminidasen** mit Hilfe der Gel-Filtration

Balke E; Scharmann W; Drzeniek R

Zentralblatt für Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene. Erste Abteilung Originale. Reihe A: Medizinische Mikrobiologie und Parasitologie (GERMANY, WEST) 1974, 229 (1) p55-67, ISSN 0300-9688

Journal Code: Y52

Languages: GERMAN Summary Languages: ENGLISH

Document type: JOURNAL ARTICLE ; English Abstract

JOURNAL ANNOUNCEMENT: 7504

Subfile: INDEX MEDICUS

Descriptors: *Bacteria--Enzymology--EN; *Chromatography, Gel; *Neuraminidase--Analysis--AN; *Clostridium perfringens*--Enzymology--EN; *Corynebacterium diphtheriae*--Enzymology--EN; Hydrogen-Ion Concentration; Maleates; Molecular Weight; **Pasteurella** --Enzymology--EN; Species Specificity; *Streptococcus*--Enzymology--EN; *Streptococcus pneumoniae*

2/9/24 (Item 4 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)
(c) 2000 BIOSIS. All rts. reserv.

11633906 BIOSIS NO.: 199800415637

Second neuraminidase gene (nanH) cloned from Pasteurella multocida.

AUTHOR: Lee M D; Meier M

AUTHOR ADDRESS: Dep. Med. Micro. Parasit., Univ. Georgia, Athens, GA**USA

JOURNAL: Abstracts of the General Meeting of the American Society for
Microbiology 98p66 1998

CONFERENCE/MEETING: 98th General Meeting of the American Society for
Microbiology Atlanta, Georgia, USA May 17-21, 1998

SPONSOR: American Society for Microbiology

ISSN: 1060-2011

RECORD TYPE: Citation

LANGUAGE: English

REGISTRY NUMBERS: 9001-67-6: NEURAMINIDASE

DESCRIPTORS:

MAJOR CONCEPTS: Genetics

BIOSYSTEMATIC NAMES: Enterobacteriaceae--Facultatively Anaerobic
Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms;

Pasteurellaceae --Facultatively Anaerobic Gram-Negative Rods,
Eubacteria, Bacteria, Microorganisms

ORGANISMS: E. coli {Escherichia-coli} (Enterobacteriaceae); **Pasteurella**
-multocida (**Pasteurellaceae**)--pathogen

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Bacteria; Eubacteria;
Microorganisms

CHEMICALS & BIOCHEMICALS: nanH--cloning, neuraminidase gene;
neuraminidase

MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster

CONCEPT CODES:

31500 Genetics of Bacteria and Viruses

10060 Biochemical Studies-General

10802 Enzymes-General and Comparative Studies; Coenzymes

30000 Bacteriology, General and Systematic

00520 General Biology-Symposia, Transactions and Proceedings of
Conferences, Congresses, Review Annuals

BIOSYSTEMATIC CODES:

06702 Enterobacteriaceae (1992-)

06703 **Pasteurellaceae** (1992-)

2/9/27 (Item 7 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)
(c) 2000 BIOSIS. All rts. reserv.

10960288 BIOSIS NO.: 199799581433

Distribution of a neuraminidase gene (nanH) isolated from serotype A:3,4
Pasteurella multocida.

AUTHOR: Lee Margie D; Mize Marie

AUTHOR ADDRESS: Dep. Med. Microbiol., Coll. Vet. Med., Univ. Ga., Athens,
GA 30602**USA

JOURNAL: Abstracts of the General Meeting of the American Society for
Microbiology 97 (0):p114 1997

CONFERENCE/MEETING: 97th General Meeting of the American Society for
Microbiology Miami Beach, Florida, USA May 4-8, 1997

ISSN: 1060-2011

RECORD TYPE: Citation

LANGUAGE: English

REGISTRY NUMBERS: 9001-67-6: NEURAMINIDASE

DESCRIPTORS:

MAJOR CONCEPTS: Animal Husbandry (Agriculture); Biochemistry and
Molecular Biophysics; Enzymology (Biochemistry and Molecular
Biophysics); Genetics; Infection; Veterinary Medicine (Medical

Sciences)

BIOSYSTEMATIC NAMES: Animalia-Unspecified--Animalia; Endospore-forming Gram-Positives--Eubacteria, Bacteria; Enterobacteriaceae--Eubacteria, Bacteria; **Pasteurellaceae** --Eubacteria, Bacteria

ORGANISMS: animal (Animalia - Unspecified); endospore-forming gram-positive rods and cocci (Endospore-forming Gram-Positives); Animalia (Animalia - Unspecified); Clostridium (Endospore-forming Gram-Positives); E. coli (Organisms - Unspecified); Escherichia coli (Enterobacteriaceae); **Pasteurella** multocida (**Pasteurellaceae**); Salmonella (Enterobacteriaceae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; bacteria; eubacteria; microorganisms

CHEMICALS & BIOCHEMICALS: NEURAMINIDASE

MOLECULAR SEQUENCE DATABANK NUMBER: amino acid sequence

MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster; ANIMAL HUSBANDRY; BACTERIAL DISEASE; DNA/DNA HYBRIDIZATION; GENE EXPRESSION; GENETIC METHOD; HOMOLOGY; HOST; INFECTION; MOLECULAR CLONING; MOLECULAR GENETICS; NEURAMINIDASE; PASTEURELLOSIS; PATHOGEN; RESPIRATORY SYSTEM

CONCEPT CODES:

10060 Biochemical Studies-General
10502 Biophysics-General Biophysical Studies
10802 Enzymes-General and Comparative Studies; Coenzymes
26502 Animal Production-General; Methods
31500 Genetics of Bacteria and Viruses
36001 Medical and Clinical Microbiology-General; Methods and Techniques
38002 Veterinary Science-General; Methods
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals

BIOSYSTEMATIC CODES:

06702 Enterobacteriaceae (1992-)
06703 **Pasteurellaceae** (1992-)
07810 Endospore-forming Gram-Positives (1992-)
33000 Animalia-Unspecified

2/9/33 (Item 1 from file: 50)

DIALOG(R)File 50:CAB Abstracts

(c) 2000 CAB International. All rts. reserv.

01236719 CAB Accession Number: 822208589

Neuraminidase from **Pasteurella haemolytica**.

Tabatabai, L. B.; Frank, G. H.

Current Microbiology vol. 5 (4): p.203-206

Publication Year: 1981

ISSN: 0343-8651

Language: English

Document Type: Journal article

13 ref.

ORGANISM DESCRIPTORS: **Pasteurella** haemolytica

BROADER TERMS: **Pasteurella** ; **Pasteurellaceae** ; Gracilicutes; bacteria; prokaryotes

CABICODES: Parasites, Vectors, Pathogens & Biogenic Diseases of Animals (LL820)

2/9/45 (Item 1 from file: 77)

DIALOG(R)File 77:Conference Papers Index

(c) 2000 Cambridge Sci Abs. All rts. reserv.

4102821

Supplier Accession Number: 94-06190

V22N06

In vivo production of neuraminidase by Pasteurella haemolytica A1 in goats following transthoracic bacterial challenge

Straus, D.C.; Purdy, C.W.

Texas Tech. Univ. Health Sci. Ctr., Lubbock, and Conservation and Production Res. Lab., USDA, Agricultural Res. Serv., Bushland, TX, USA

94th Annual Meeting of the American Society for Microbiology 9425004
Las Vegas, NV (USA) 23-27 May 1994
American Association for Microbiology
American Society for Microbiology, 1325 Massachusetts Ave., NW,
Washington, DC 20005, Abstracts. Poster Paper No. B128
Languages: ENGLISHENGLISH
Descriptors: BIOLOGY GENERAL
Section Heading: BIOLOGY GENERAL
Section Class Codes: 2000
?t s2/3/47 48

2/3/47 (Item 1 from file: 349)
DIALOG(R)File 349:PCT Fulltext
(c) 2000 WIPO/MicroPat. All rts. reserv.

00573233

NEURAMINIDASE, CODING SEQUENCES, COMPOSITIONS AND METHODS
NEURAMINIDASE, SEQUENCES CODANTES, COMPOSITIONS ET TECHNIQUES AFFERENTES
Patent Applicant/Assignee:

UNIVERSITY OF GEORGIA RESEARCH FOUNDATION INC, UNIVERSITY OF GEORGIA
RESEARCH FOUNDATION, INC. , DW Brooks Drive, Athens, GA 30602 , US
Inventor(s):

LEE Margie D, LEE, Margie, D. , 410 Monty Drive, Atlanta, GA 30601 , US
HENK Adam, HENK, Adam , 950 Briarcliff Drive, Bloomington, IN 47404 , US
Patent and Priority Information (Country, Number, Date):

Patent: WO 9816649 A1 19980423

Application: WO 97US18668 19971015 (PCT/WO US9718668)

Priority Application: US 9628482 19961015; US 9628876 19961016

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU
ZW GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES
FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD
TG

Publication Language: English

Filing Language: English

Fulltext Word Count: 13782

2/3/48 (Item 1 from file: 357)
DIALOG(R)File 357:Derwent Biotechnology Abs
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0225522 DBA Accession No.: 98-07119 PATENT

Novel Pasteurella multocida neuraminidase - recombinant

**exo-alpha-sialidase preparation, DNA probe and DNA primer for use in
recombinant vaccine and disease diagnosis**

AUTHOR: Lee M D; Henk A

CORPORATE SOURCE: Athens, GA, USA.

PATENT ASSIGNEE: Univ.Georgia-Res.Found. 1998

PATENT NUMBER: WO 9816649 PATENT DATE: 980423 WPI ACCESSION NO.:
98-271747 (9824)

PRIORITY APPLIC. NO.: US 28876 APPLIC. DATE: 961016

NATIONAL APPLIC. NO.: WO 97US18668 APPLIC. DATE: 971015

Expression of the *Pasteurella haemolytica* leukotoxin is inhibited by
a locus that encodes an ATP-binding cassette homolog [published erratum
appears in Infect Immun 1993 Dec;61(12):5431]

Highlander SK; Wickersham EA; Garza O; Weinstock GM

Department of Microbiology and Immunology, Baylor College of Medicine,
Houston, Texas 77030.

Infection and immunity (UNITED STATES) Sep 1993, 61 (9) p3942-51,
ISSN 0019-9567 Journal Code: GO7

Contract/Grant No.: RR-05425, RR, NCRR

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9312

Subfile: INDEX MEDICUS

Multicopy and single-copy chromosomal fusions between the *Pasteurella*
haemolytica leukotoxin regulatory region and the *Escherichia coli*
beta-galactosidase gene have been constructed. These fusions were used as
reporters to identify and isolate regulators of leukotoxin expression
from a *P. haemolytica* cosmid library. A cosmid clone, which inhibited
leukotoxin expression from multicopy and single-copy protein fusions, was
isolated and found to contain the complete leukotoxin gene cluster plus
additional upstream sequences. The locus responsible for inhibition of
expression from leukotoxin -beta-galactosidase fusions was mapped within
these upstream sequences, by transposon mutagenesis with Tn5, and its DNA
sequence was determined. The inhibitory activity was found to be associated
with a predicted 440-amino-acid reading frame (lapA) that lies within a
four-gene arginine transport locus. LapA is predicted to be the
nucleotide-binding component of this transport system and shares homology
with the Clp family of proteases.

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5,256,415

CA 2081950 5/2/93

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A serological comparison of *Pasteurella haemolytica* vaccines
containing different adjuvants.

Wells PW; Gilmour NJ; Burrells C; Thompson DA

Research in veterinary science (ENGLAND) Sep 1979, 27 (2) p248-50,

ISSN 0034-5288 Journal Code: R7D

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8005

Subfile: INDEX MEDICUS

Five adjuvants were compared for their ability to enhance the serological response of sheep to capsule extract of *Pasteurella haemolytica* biotype A serotype 6. Vaccines of this antigen were inoculated with incomplete Freund's adjuvant, complete Freund's adjuvant, incomplete Freund's adjuvant containing a water soluble extract of *Mycobacterium tuberculosis*, aluminium hydroxide gel or a combination of aluminium hydroxide gel and incomplete Freund's adjuvant. This latter vaccine induced significantly higher titres of antibody as measured by an indirect haemagglutination test than did any of the other vaccines. The aluminium hydroxide gel alone was shown to be the poorest adjuvant. The local reactions at the sites of inoculations produced by the aluminium hydroxide gel in incomplete Freund's adjuvant vaccine were not severe and were not detectable beyond one month after vaccination in the majority of the sheep.

Tags: Animal; Comparative Study

Challenge exposure of cattle vaccinated with a chemically altered strain of *Pasteurella haemolytica*.

Kucera CJ; Wong JC; Feldner TJ

American journal of veterinary research (UNITED STATES) Oct 1983, 44

(10) p1848-52, ISSN 0002-9645 Journal Code: 40C

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8402

Subfile: INDEX MEDICUS

Calves vaccinated with a chemically altered strain of *Pasteurella haemolytica* and their nonvaccinated controls were challenge exposed intranasally with the Cooper strain of infectious bovine rhinotracheitis virus. Five days later, the calves were challenge exposed intratracheally with the *P haemolytica* type A1. Calves that had been vaccinated with large, medium, or small doses of the chemically altered vaccinal strain of *P haemolytica* had various degrees of resistance to the experimental challenge exposure. Nonvaccinated animals developed severe respiratory tract disease and pneumonia after challenge exposure.

Tags: Animal; Male

Response of sheep and cattle to combined polyvalent Pasteurella haemolytica vaccines.

Cameron CM; Bester FJ

Onderstepoort journal of veterinary research (SOUTH AFRICA) Mar 1986,

53 (1) p1-7, ISSN 0030-2465 Journal Code: OI6

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8607

Subfile: INDEX MEDICUS

The antibody response to various combined polyvalent **Pasteurella haemolytica** vaccines was studied in sheep and cattle. In sheep, certain oil adjuvant vaccines gave rise to a better antibody response to **P. haemolytica** than an Al(OH)₃-adsorbed vaccine. This finding, however, was not consistent for all serotypes, and with respect to **P. multocida**, oil adjuvants had no advantage. Furthermore, it was found that the removal of all the culture supernatant fluid during the production process had no deleterious effect on the antigenicity of the product. In cattle, good responses were obtained with both alum-precipitated and Al(OH)₃-adsorbed vaccine where all culture supernatant fluid was not removed during the production process. No advantage was gained with oil emulsion vaccines. The degree of immunity afforded to mice and the antibody response to different serotypes of **P. haemolytica** varied considerably. Further detailed studies with respect to specific serotypes of **P. haemolytica** are therefore required.

Efficacy of a streptomycin-dependent, live Pasteurella haemolytica vaccine against challenge exposure to Pasteurella haemolytica in cattle.

Blanchard-Channell MT; Ashfaq MK; Kadel WL

American journal of veterinary research (UNITED STATES) Apr 1987, 48

(4) p637-42, ISSN 0002-9645 Journal Code: 40C

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8709

Subfile: INDEX MEDICUS

A streptomycin-dependent, live *Pasteurella haemolytica* vaccine was given in 1 or 2 doses to 2 groups of weaned calves; 2 other groups of calves were not vaccinated. All calves in the vaccinated groups and calves in 1 of the nonvaccinated groups were stressed by transport, intratracheally inoculated with bovine herpesvirus type-1 (Cooper strain), and then intratracheally inoculated with *P haemolytica* type A1. The 4th group of calves (nonvaccinated controls) was not stressed and were not intratracheally inoculated with virus or bacteria. Mean daily weight gains, total clinical sign scores, lung lesion scores, plasma fibrinogen concentrations, and antibody titers against *P haemolytica* were determined at various intervals. Calves that had been vaccinated twice had greater mean daily weight gains and lower total clinical sign scores and lung lesion scores than did nonvaccinated, challenge-exposed calves, but the difference was not significant (P greater than 0.05). Calves vaccinated once had the greatest mean daily weight gains, the lowest total clinical sign scores, and the lowest lung lesion scores when compared with the other 2 challenge-exposed groups of calves. Mean daily weight gains and total clinical sign scores of calves vaccinated once were significantly different (P less than 0.05) than those of calves vaccinated twice. Nonvaccinated, nonchallenge-exposed control calves did not develop clinical signs of disease, did not develop lung lesions, and had consistently positive daily weight gains, and had scores in these areas that were significantly different (P less than 0.05) from those of all challenge-exposed groups of calves. Increases in plasma fibrinogen concentrations corresponded to infection with *P haemolytica*. (ABSTRACT TRUNCATED AT 250 WORDS)

Vaccination studies against experimental bovine *Pasteurella* pneumonia.

Cardella MA; Adviento MA; Nervig RM

Canadian journal of veterinary research (CANADA) Apr 1987, 51 (2)

p204-11, ISSN 0830-9000 Journal Code: CKL

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8711

Subfile: INDEX MEDICUS

Vaccination-challenge experiments were conducted in colostrum-deprived calves to evaluate the efficacy of *Pasteurella* bacterins and vaccines against experimental pneumonic pasteurellosis. Calves were vaccinated with formalin-killed bacterins and live vaccines, then challenge exposed intratracheally with *P. haemolytica* or *P. multocida*. Infectious bovine rhinotracheitis virus was inoculated intranasally three to four days prior to *P. haemolytica* challenge-exposure. All calves were examined for macroscopic and microscopic lesions after being found dead or following euthanasia four to seven days after challenge exposure with the bacterial pathogen. Clinical, hematological, and pathological responses to challenge exposure in aluminum hydroxide absorbed *P. haemolytica* and *P. multocida* bacterin-treated calves were consistent with the pneumonic lesions of pulmonary pasteurellosis in the control calves. An oil-adjuvanted *P. haemolytica* bacterin limited clinical and pathological responses in the affected calves whereas a *P. multocida* oil-adjuvanted bacterin did not. Both clinical and pathological responses to challenge exposure in calves vaccinated with live *Pasteurella* vaccines were less severe than those of the control calves. Vaccine effectiveness appeared to be dose dependent.

Tags: Animal; Female; Male

Aerosol vaccination of calves with *Pasteurella haemolytica* against experimental respiratory disease.

Jericho KW; Langford EV

Canadian journal of comparative medicine (CANADA) Jul 1982, 46 (3)
p287-92, ISSN 0008-4050 Journal Code: CIO

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8302

Subfile: INDEX MEDICUS

Three experiments were conducted on calves in which the efficacy of vaccination with live *Pasteurella haemolytica* in aerosol was tested by challenge with sequential aerosol exposure to bovine herpesvirus 1 and *P. haemolytica*. Neither single nor multiple aerosol vaccinations protected against the experimental disease. Macroscopically recognizable rhinitis, tonsillitis, tracheitis and pneumonia occurred in both controls and vaccinates. In one experiment as many as three aerosol vaccinations with live *P. haemolytica* for up to 20 minutes failed to elicit clinical signs in exposed calves. *Pasteurella haemolytica* was isolated less frequently from tissues of vaccinated calves than from those of nonvaccinated calves. *Pasteurella haemolytica* was isolated from deep nasal swabs of 4/14 vaccinated calves five and six days after viral exposure. It was concluded that although bovine herpesvirus 1 vaccination has been shown previously to prevent the experimental disease produced by bovine herpesvirus 1-*P. haemolytica*, live *P. haemolytica* vaccination by aerosol will not provide the same protection.

Tags: Animal

Descriptors: Bacterial Vaccines; *Cattle Diseases

Immunologic response and resistance to experimentally induced pneumonic pasteurellosis in cattle vaccinated with various dosages of lyophilized *Pasteurella haemolytica*.

Confer AW; Panciera RJ; Gentry MJ; Fulton RW

American journal of veterinary research (UNITED STATES) Aug 1986, 47 (8) p1853-7, ISSN 0002-9645 Journal Code: 40C

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8612

Subfile: INDEX MEDICUS

Pasteurella haemolytica was lyophilized in an enriched soybean polypeptone broth. Lyophilization in this medium resulted in a mean 10-fold loss in *P haemolytica* viability, as opposed to up to a 10(4)-fold loss in viability when other media were used. Lyophilized *P haemolytica* was reconstituted and used as a live vaccine in 3 experiments. Calves were challenge exposed by transthoracic injection with virulent *P haemolytica*. In experiment 1, 2 subcutaneous injections (7-day interval between injections) with 5 ml of recently harvested (1×10^9) colony-forming units [CFU]/ml) or lyophilized (1×10^8) CFU/ml) *P haemolytica* significantly (P less than 0.001) enhanced resistance against challenge exposure, compared with resistance in calves given saline solution or sterile medium (control calves) or calves vaccinated with lyophilized organisms at a concentration of 1×10^6 CFU/ml. In experiment two, 1, 2, or 5 ml of lyophilized *P haemolytica* (1×10^8) CFU/ml) significantly (P less than 0.05) enhanced resistance, compared with resistance in calves given saline solution (control calves). In experiment three, 1 or 2 injections of lyophilized *P haemolytica* significantly (P less than 0.01) enhanced resistance against challenge exposure, compared with that of calves given saline solution. The mean lesion score for calves given 1 injection was not significantly higher than the mean lesion score for the group given 2 injections. Vaccination with lyophilized *P haemolytica* vaccine caused significant (P less than 0.05) increases in serum antibody to *P haemolytica* somatic antigens, to a carbohydrate-protein subunit of the organism, and to leukotoxin.